Standards

Metstrut Cable Ladder Systems generally conform to BS EN 61537:2007 Cable management - cable tray systems and cable ladder systems

Information relating to compliance is detailed/highlighted within the following sections of the standard:

6 Classification

6.1 According to material

6.1.1 Metstrut cable ladder systems are metallic system components

6.2 According to resistance to flame propagation

6.6.2 Metstrut cable ladder systems are non - flame propagating system components

6.3 According to electrical continuity characteristics

6.3.2 Metstrut cable ladder systems have electrical continuity characteristics

6.4 According to electrical conductivity

6.4.1 Metstrut cable ladder systems are electrically conductive system components

6.5 According to resistance against corrosion

6.5.2 Metstrut cable ladder systems are made of steel with metallic finishes or stainless steel

(Resistance to corrosion is classified according to Table 1. and follow the relevant specification in Table 8, with compliance according to Table 7.)

Table 1 - classification for resistance against corrosion

Class	Reference - material and finish
0 (a)	None
1	Electroplated to a minimum thickness of 5 µm
2	Electroplated to a minimum thickness of 12 µm
3	Pre - galvanised to grade 275 to EN 10327 and EN 10326
4	Pre - galvanised to grade 350 to EN 10327 and EN 10326
5	Post - galvanised to a zinc mean coating thickness (minimum) of 45 µm according to ISO 1461 for zinc thickness only
6	**Post - galvanised to a zinc mean coating thickness (minimum) of 55 µm according to ISO 1461 for zinc thickness only**
7	Post - galvanised to a zinc mean coating thickness (minimum) of 70 µm according to ISO 1461 for zinc thickness only
8	Post - galvanised to a zinc mean coating thickness (minimum) of 85 µm according to ISO 1461 for zinc thickness only
9A	Stainless steel manufactured to ASTM: A 240/A 240M - 95a designation S30400 or EN 10088 grade 1 - 4301 without a post treatment (b)
9B	**Stainless steel manufactured to ASTM: A 240/A 240M - 95a designation S31603 or EN 10088 grade 1 - 4404 without a post treatment (b)**
9C	Stainless steel manufactured to ASTM: A 240/A 240M - 95a designation S30400 or EN 10088 grade 1 - 4301 with a post treatment (b)
9D	Stainless steel manufactured to ASTM: A 240/A 240M - 95a designation S31603 or EN 10088 grade 1 - 4404 with a post treatment (b)
(a)	For materials which have no declared corrosion resistance classification
(b)	The post - treatment process is used to improve the protection against crevice crack corrosion and the contamination by other steels

Table 7 - System component compliance and classification for resistance against corrosion

System component Material and finishes	Classification according to	Compliance	Subclause for compliance check
Non - metallic	6.5.1	Declaration	14.2.1
Reference - zinc coating as in Table 1.	**6.5.2 Table 1 classes 1 to 8**	**Declaration or measurement**	**14.2.2**
Non - referenced zinc coating	6.5.2 Table 1 classes 1 to 8	By neutral salt spray test NSS	14.2.3
Reference - stainless steel as in Table 1.	**6.5.2 Table 1 Class 9A to 9D**	**Declaration**	**14.2.2**
Non-referenced stainless steel	Not classified	Declaration	None
Other metallic coatings	6.5.2 Table 1 Column 1 classes 1 to 8	By neutral salt spray test NSS	14.2.3
Aluminium alloys or other metals	6.5.3 Under consideration	Under consideration	14.2.4
Organic coatings	6.5.4 Under consideration	Under consideration	14.2.5

Table 8 - Zinc coating thickness of reference materials

Class	Minimum thickness µm	Minimum coating thickness as given in EN 10327 or EN 10326 µm	Mean coating thickness (minimum) to ISO 1461 µm
0 (a)	-	-	-
1	5	-	-
2	12	-	-
3	-	15	-
4	-	19	-
5	-	-	45
6	**-**	**-**	**55**
7	-	-	70
8	-	-	85

(a) As declared by the manufacturer or responsible vendor

6.6 According to temperature

6.6.1 Minimum temperature for the system components is given in Table 2.

6.6.2 Maximum temperature for the system components is given in Table 3.

Table 2 - Minimum temperature classification

Minimum transport, storage installation and application temperature °C
+5
- 5
- 15
- 20
- 40
- 50

Table 3 - Maximum temperature classification

Maximum transport, storage installation and application temperature °C
+40
+60
+90
+105
+120
+150

6.8 According to the free base area of the cable ladder length as given in Table 5.

Table 5 - Free base area classification

Classification	Perforation in the free base area
X	Up to 80 %
Y	Over 80 % and up to 90 %
Z	More than 90 %

Note Classification Z relates to IEC 60364 - 5 - 52 Subclause A.52.6.2 third paragraph

6.9 According to impact resistance

6.9.5 System component offering impact resistance up to 50 J (as verified by testing in accordance with 10.9 Test for impact resistance.)

7 Marking and documentation

7.1 Each system component is marked by a label. Labels used fully comply with the rubbing test. Boxed items are labelled on the packaging

8 Dimensions

Key cross sectional dimensions for straight cable ladders

Part No.	External depth mm	Internal depth mm	External width mm	Internal width mm (Internal)	X-sectional area mm²
LSL050/0150#	50	31.0	192	150	4650
LSL050/0300#	50	31.0	342	300	9300
LSL050/0450#	50	31.0	492	450	13950
LSL100/0150#	100	70.0	192	150	10500
LSL100/0300#	100	70.0	342	300	21000
LSL100/0450#	100	70.0	492	450	31500
LSL100/0600#	100	70.0	642	600	42000
LSL100/0750#	100	70.0	792	750	52500
LSL100/0900#	100	70.0	942	900	63000
LSL125/0150#	125	95.0	192	150	14250
LSL125/0300#	125	95.0	342	300	28500
LSL125/0450#	125	95.0	492	450	42750
LSL125/0600#	125	95.0	642	600	57000
LSL125/0750#	125	95.0	792	750	71250
LSL125/0900#	125	95.0	942	900	85500
LSL150/0150#	150	120.0	192	150	18000
LSL150/0300#	150	120.0	342	300	36000
LSL150/0450#	150	120.0	492	450	54000
LSL150/0600#	150	120.0	642	600	72000
LSL150/0750#	150	120.0	792	750	90000
LSL150/0900#	150	120.0	942	900	108000

Minimum internal radius of fittings

Minimal internal radius of fittings available for the accommodation of cables is 300 mm.

9 Construction

9.1 Surfaces of system components which are likely to come into contact with cables during installation are inspected to ensure they shall not cause damage to the cables when installed correctly.

9.2 As with all metallic system components, care should be exercised that handling is in accordance with the relative COSHH regulations and gloves should be worn.

9.3 Screwed connections have been designed to withstand the mechanical stresses occurring during installations and normal use and will not cause damage to cables when correctly inserted. Screwed connections are in general ISO metric threads fully compliant to tests in accordance with 9.3.1 and 9.3.2 of the standard. Metstrut Cable Ladder Systems are usually assembled using M10 cup square bolts and hex nuts with lock washers for couplers etc tightened to a torque of 45N/m. Other connections require M10 hex bolts for clamps etc tightened to a torque of 25N/m.

10 Mechanical properties

Cable ladder lengths have been tested generally in accordance with the standard under 10.2 and 10.3 for verification of the loading graphs. It should be noted that independent testing has been carried out to verify the structural performance of the cable ladders at the minimum and maximum temperature classifications for test conditions under 10.2.2.

All accessories eg bends, tees etc should be directly supported by a suitable support device or devices at appropriate positions.